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ABSTRACT

A previous investigation demonstrated that 34 speech- and/or language-impaired preschoolers were more fluent on an expressive language task when tested by familiar examiners than when tested by unfamiliar examiners. Post-hoc analyses were conducted in this study to determine (1) whether subjects' expressive language also was semantically and syntactically more complex in the familiar examiner condition, and (2) whether the quality of spoken language was related to fluency. Employing a multi-categorical scale consisting of salient syntactic characteristics and semantic relations, two experienced speech clinicians scored identical and complete records of Ss' expressive language performance. Results indicated that Ss demonstrated significantly richer descriptive language, as well as greater fluency, in the familiar examiner condition. Also, evidence was found for the concurrent validity of a simple fluency measure (i.e., number of non-repetitive words) with respect to more elaborate indices of the quality of language. (Author)

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Research Report No. 83

EXAMINER FAMILIARITY AND THE RELATION BETWEEN QUALITATIVE AND QUANTITATIVE INDICES OF EXPRESSIVE LANGUAGE

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Abstract

A previous investigation demonstrated that speech- and/or language-impaired preschoolers were more fluent on an expressive language task when tested by familiar examiners than when tested by unfamiliar examiners. Post-hoc analyses were conducted to determine (a) whether subjects' expressive language also was semantically and syntactically more complex in the familiar examiner condition, and (b) whether the quality of spoken language was related to fluency. Employing a multi-categorical scale consisting of salient syntactic characteristics and semantic relations, two experienced speech clinicians scored identical and complete records of subjects' expressive language performance. Results indicated that subjects demonstrated significantly richer descriptive langauge, as well as greater fluency, in the familiar examiner condition. Also, evidence was found for the concurrent validity of a simple fluency measure (i.e., number of non-repetitive words) with respect to more elaborate indices of the quality of language.

Examiner Familiarity and the Relation Between Qualitative and Quantitative Indices of Expressive Language

Previous studies have demonstrated that young handicapped children perform significantly stronger in a test situation when they are assessed by a familiar examiner (e.g., Olswang & Carpenter, 1978; Stoneman & Gibson, 1978). Fuchs, Garwick, Featherstone, and Fuchs (1980) explored whether the importance of examiner familiarity was related to the nature of the experimental task. Findings indicated that handicapped preschoolers (a) earned significantly greater scores on test items requiring a high level of symbolic mediation (descriptions of representational drawings), but (b) showed no such differential performance on tasks demanding a relatively low level of symbolic mediation (measures of articulation). Fuchs et al. concluded that the importance of examiner familiarity may be mediated by the degree of complexity of the assessment task.

This conclusion must be considered tentative, however, because two important assumptions were not tested: first, that the picture description task required examinees to exercise a higher level of symbolic mediation than did the articulation task; and second, that quantity of words, the dependent variable for the picture description task, was a valid measure of symbolic mediation rather than simply a reflection of verbal fluency. One purpose of the current report was to investigate, in post-hoc fashion, the second of these assumptions; this study explored whether examinees' descriptions of the representational drawings were semantically and syntactically more complex, in addition to being more verbose, in the familiar than in the unfamiliar condition. If so, this study would provide persuasive

evidence for the initial contention that task complexity mediates examinees' differential performance with familiar and unfamiliar testers and would sharpen implications for practitioners.

These same post-hoc analyses shed light on the relation between simple and more elaborate measures of pupil progress, a topic that is of great interest to advocates of continuous evaluation in special education. The Education for All Handicapped Children Act (PL 94-142) mandates that special educators write an Individualized Educational Program that specifies annual goals and long-term objectives for a student, and then monitor the student's progress toward those goals and objectives. Substantive compliance with this law suggests that the monitoring of pupils' progress be continuous (Deno & Mirkin, 1977). Beyond compliance with PL 94-142, research on the use of intensive, repeated assessment indicates that frequent testing and evaluation contributes to teacher effectiveness and student achievement (Beck, 1981; Bohannon, 1975; Frumess, 1973; Lovitt, Schaff, & Sayre, 1970; Mirkin & Deno, 1979).

Despite the mandate for and the demonstrated usefulness of frequent testing and ongoing monitoring of progress toward goals and objectives, it appears that special educators are reluctant to implement continuous evaluation procedures because they are time consuming and logistically awkward (Fuchs, Wesson, Tindal, Mirkin, & Deno, 1981; Tindal, Fuchs, Christenson, Mirkin, & Deno, 1981). To facilitate the implementation of continuous evaluation procedures, it is necessary to develop measurement procedures that can be incorporated relatively easily into the daily routines of teachers

(Deno, Mirkin, Chiang, & Lowry, 1980).

In the areas of reading, spelling, and written expression, research has demonstrated that simple measures of the numbers of words read, spelled, or written, respectively, correlate highly with more elaborate and psychometrically adequate reading, spelling, and written expression measures (Deno, Mirkin, Chiang, & Lowry, 1980; Deno, Mirkin, Lowry, & Kuehnle, 1980; Deno, Mirkin, & Marston, 1980). A second purpose of the present study was to examine an analogous question in the area of oral language: Does a simple measure of oral language (number of non-repetitive words expressed) correlate highly and have concurrent validity with more elaborate measures of the quality of spoken language? If it does, then special educators might substitute counting words spoken for more time-consuming analyses of qualitative language. Teachers or language clinicians could then use this measure easily and frequently to monitor children's progress on spoken language goals and have confidence that improvement in the quantity of language relates to improvement in the quality of language.

Method

Original Study

Examinees. Subjects were 34 preschool children whose speech and/or language functioning represented a moderate to profound handicap. Following a diagnostic process that lasted two weeks and involved a multi-disciplinary assessment team, the children were enrolled in the Special Education Preschool of the Minneapolis Public Schools, a city-wide program for handicapped 4 and 5 year old pupils.

They participated in the Pre-Kindergarten Language and Speech (PKLS) component of the Preschool Program where classes were taught by teams of a teacher and speech clinician. The subjects' mean CA was 4-9, ranging from 4-3 to 5-10. There were 21 boys and 13 girls who came from families of diverse SES. American Indians and blacks constituted 15% and 20% of the sample, respectively. With two exceptions, subjects performed within the normal range on individually administered intelligence tests. The mean length of time that the subjects had been in their present classrooms was 7.4 months.

Examiners. Subjects were assessed twice during a period of two weeks--once by their classroom teachers and once by a stranger--within a crossover design. The two familiar examiners (classroom teachers) and four unfamiliar testers (strangers) all were female, certified in early childhood education, who had several years of experience working with children in educational settings. Familiar and unfamiliar examiners were trained separately in the administration of the experimental tasks by a certified speech clinician who was unaware of the study's purposes.

Measure. The experimental task required subjects to describe two pictures from Tester's (1966) Teaching Picture Series. One picture showed a preschool boy being examined in a doctor's office while several other children awaited their turns; the second depicted a small girl crying with a woman bending solicitously over her. The order in which the pictures were presented was counterbalanced across the subjects. As they presented the illustrations, the examiners said, "Tell me about this picture." If the subject refused to

respond, the examiner provided additional encouragement by stating, "Tell me what's happening." If the child remained silent, the task was discontinued. If the subject provided information about the picture after the initial instruction, the examiner gave adequate time for the child to complete the response and then said, "Can you tell me more?" After the subject was permitted an opportunity to do so, the task was terminated. This task is similar to test items found on both the Stanford-Binet and the Preschool Language Scale.

Although the examiners were required to administer the experimental task according to these instructions, guidelines purposefully were withheld concerning aspects of the assessment situation infrequently controlled by manuals of published tests. Examiners were instrucuted to exercise their own judgment concerning such factors as the frequency and qualitative nature of feedback to be given and the use of open-ended questions prior to the assessment.

Subjects' desriptions of the pictures were scored in terms of the total number of intelligible words employed.

Post-Hoc Analysis

Measures. An 18-category scale, consisting of syntactic characteristics and semantic relations, described by Wiig and Semel (1980), was used to measure the semantic/syntactic complexity of the subjects' descriptions of the illustrations. This scale assesses whether the speaker: describes participants, actions, and objects; uses attribution to describe something other than participants; recognizes causality, verb tense, location, and proximity; states relationships between participants; shows reciprocity and condition

for actions of participants; indicates negation, possession, inclusion/exclusion, and notice; substitutes pronouns for nouns; modifies actions; and uses wh-words. Seven of these 18 categories are differentiated by multiple sub-categories. They were used by the raters in an initial scoring of the protocols to add conceptual clarity to the general categories. However, during a subsequent assessment, scores on the sub-categories were collapsed under their respective, more general headings. (See Appendix for the complete scale.)

In an effort to evaluate the content validity of the scale, two of the investigators obtained language samples from 23 non-handicapped preschool children using the same drawings and testing procedures that were employed in the original investigation. The comprehensiveness of the syntactic/semantic scale was demonstrated when the 18 categories adequately described the non-handicapped children's responses.

Subjects' descriptions of the pictures also were judged as correct or incorrect with respect to the content of the illustrations. Three scores were generated by combining the measures of semantic/syntactic complexity and descriptive accuracy: a total complexity score, a complexity score on only accurate statements, and a qualitative complexity score that reflected the number of qualitatively different semantic/syntactic categories used.

Finally, the fluency of subjects' language was evaluated in terms of the total number of non-repetitive, intelligible words used to describe the picture stimuli.

Raters and training. Raters were two graduate students who were

enrolled in a Masters-level Communication Disorders program at a local state college. Both were completing their fourth year as speech clinicians in the public schools; preschool pupils represented the majority of their caseloads. The raters were trained to use the semantic/syntactic scale in three sessions totaling six hours. The trainer was a faculty member of the same college department. The trainer and raters were unaware of the purposes of the investigation.

Scoring. The raters were given identical sets of 68 protocols (representing the responses of 34 subjects to familiar and unfamiliar examiners). On these protocols, subjects' spoken language was divided clearly into separate utterances. An utterance, or statement, was defined as a self-sufficient unit of meaning preceded and followed by silence or a pause (Wiig & Semel, 1980). The raters were instructed to assess the protocols for semantic/syntactic complexity. Whenever a response or part of a response demonstrated the use of one or more of the 18 semantic/syntactic categories, it was marked accordingly. In addition to accurate descriptions, derivative comments and disclaimers (e.g., "I don't know") were scored; verbatim repetitions were not scored. Inter-rater agreement for 100% of the data was .80.

For each statement on a given protocol, raters also were required to determine whether it was accurate or inaccurate with respect to the content of the stimulus picture. Inter-rater agreement for 100% of the data was .88.

Results

Examiner Familiarity and Task Complexity

The mean number of non-repetitive, intelligible words that

subjects used to describe the stimuli was 12.06 (SD = 12.23) in the familiar examiner condition and 7.62 (SD =7.61) in the unfamiliar examiner condition. A correlated *t* test on the difference between the number of words spoken in the two conditions revealed that verbal fluency was statistically greater in the familiar condition, t (33) = 2.19, $p < .05$.

Indices of subjects' semantic/syntactic complexity in familiar and unfamiliar examiner conditions are displayed in Table 1. Correlated *t* tests indicated that subjects' total semantic/syntactic complexity score was greater in the familiar condition than in the unfamiliar condition, t (33) = 2.14, $p < .05$; their complexity score for accurate statements also was greater in the familiar situation, t (33) = 2.08, $p < .05$. Further, subjects used a greater number of qualitatively different semantic/syntactic categories with the familiar examiner than with the unfamiliar examiner, t (33) = 2.90, $p < .01$.

Insert Table 1 about here

Relation Between the Quantity and Quality of Spoken Language

Correlations were calculated between the number of non-repetitive words spoken and each of three qualitative scores. The correlations between the number of words and (a) total complexity score, (b) complexity score only on accurate statements, and (c) qualitative complexity score were +.97, +.89, and +.94, respectively.

Discussion

Examiner Familiarity and Task Complexity

Post-hoc analyses indicated that handicapped preschool children used a greater number of non-repetitive, intelligible words to describe representational drawings when interacting with familiar rather than unfamiliar testers. The children's total semantic/syntactic complexity score and their complexity score on accurate statements also were greater in the familiar examiner condition than in the unfamiliar examiner condition. Additionally, with the familiar tester, the children employed a greater number of qualitatively different semantic/syntactic categories. Thus, subjects demonstrated richer descriptive language, as well as greater fluency, in the familiar situation.

This evidence of subjects' richer descriptive language with familiar examiners strongly suggests differential use of symbolic mediation in the two examiner conditions. Further, it corroborates the notion that certain handicapped children (i.e., speech- and language-impaired pupils) perform better with familiar examiners on difficult tasks but show no such differential functioning on relatively simple tasks.

If familiarity with the examiner significantly enhances subjects' performance on tasks requiring a higher level of symbolic mediation, one might expect select populations of children to perform differentially on intelligence and personality measures that require frequent exercise of sophisticated verbal reasoning. On the other hand, differential performance might not be expected on formal

assessment instruments demanding relatively low levels of symbolic mediation, such as tests of articulation, visual perception, immediate recall, and auditory discrimination.

Relation Between the Quantity and Quality of Spoken Language

The high correlations found between the number of non-repetitive words spoken and the semantic/syntactic complexity and descriptive accuracy scores provide evidence for the concurrent validity of simple fluency measures with respect to more elaborate, psychometrically adequate measures of the quality of language. These results further suggest that practitioners might assess the number of words spoken, a logistically feasible measure, in order to monitor a child's progress on goals and objectives related to the semantic and/or syntactic aspects of a child's oral language.

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Footnote

Dougias Fuchs also is a Postdoctoral Associate at the Institute for Research on Learning Disabilities.

Table 1

Indices of Complexity for Familiar and Unfamiliar Conditions

Examiner Condition	Total Complexity Score		Complexity Score for Accurate Statements		Qualitative Complexity Score	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
Familiar	9.65	9.97	7.38	8.17	4.59	2.52
Unfamiliar	6.03	5.97	4.76	4.92	3.15	2.38

APPENDIX

DEFINITIONS OF SEMANTIC/SYNTACTIC CATEGORIES

1. Describes participants or referents:

   (a) nomination -- use of demonstrative pronoun plus noun, (e.g., that man, that book, this girl).

   (b) attribution (see below #7).

   (c) semantic features -- words used to identify and compare similarities and differences in components of meaning, (e.g., dog -- four legs, furry, pet, bark).

   (d) agent only or noun only.

2. Describes action(s):

   (a) agent - action -- use of noun and verb (e.g., boy running).

   (b) agent - object -- use of noun and noun (e.g., boy ball).

   (c) action - object -- use of verb and noun (e.g., run girl, put book).

   (d) agent - action - object -- combination of above N=V+N.

   (e) subjective nominative: agent + to be verb + adjective.

3. Describes objects:

   (a) agent - object.

   (b) action - object.

   (c) agent -- object - action.

4. Recognizes casuality: "because."

5. Recognizes verb tenses:

   (a) past.

   (b) present.

   (c) past or present participle.

   (d) future.

6. Recognizes location: Setting of action:

   (a) locative -- showing location with use of N+N: N+V or use of prepositions (e.g., book table, walk street, or use of in, on, under, beside, in front of).

   (b) spatial - temporal referents -- use of prepositions to show these qualities (e.g., in, on, under, by at).

   (c) indefinite referencrs to persons, quantity, time, space: use of indefinite pronouns (e.g., somebody, anywhere, everywhere).

7. Uses attribution to describe something other than participants: use of descriptive words, adjectives, showing affect, quantity, etc. (e.g., long/short, first/last, sweet/bitter, rough/smooth, happy/sad).

8. States relationship between participant(s): use of same/different concept.

9. Shows condition - for action of participant(s): use of if, unless.

10. Indicates negation: use of not (e.g., this girl not sharing).

11. Indicates possession: showing possession or ownership either by use of N+N (e.g., mommy car) or with 's added to noun.

12. Recognizes proximity: distant referents: (e.g., this, that, those, these).

13. Substitutes pronouns for nouns: for persons, animals, objects (e.g., he/she, him/her, they/them).

14. Modifies actions:

   (a) use of adverbs showing differentiating and labelling indefinite, relative spatial/temporal references (e.g., somewhere/anywhere, quickly/slowly).

   (b) use of adverbs showing understanding of function (e.g., the man walks proudly, quickly, etc.).

15. Uses wh-words:

   who, what, when, where, (e.g., What's this? Where is she going?).

16. Indicates inclusion/exclusion:

    (a) any/no, not here, all...except;

    (b) non existence -- all gone + N; no more + N;

    (c) includes relationship of work meaning as items in same semantic class (e.g., transportation-car, bus, train).

17. Indicates Notice: alerting one; ex. hello, + N; listen, look, etc.

18. Shows reciprocity: indicates a give-take relationship between participants in action (e.g., ask-tell, give-receive, teach-learn).

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